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For spare parts and servicing, please contact your nearest dealer, or Clarke International on

020 - 8988 - 7400

e-mail: Parts@clarkeinternational.com e-mail: Service@clarkeinternational.com

ClarkeTM



SPYDER 3 & 7 OIL FREE AIR COMPRESSOR

CE

©

0503

OPERATION & MAINTENANCE INSTRUCTIONS

Serial/Batch No:

PARTS & SERVICE TEL: 020 8988 7400

SPECIFICATIONS

Electrical Supply	230 V, 1 Phase 50Hz
Motor Rating	1.5 HP
Max. Air Pressure	8 bar (116 lbf/in ²)
Air Displacement	6.3 cuft/min
Air Receiver Spyder 3	2 litre
Spyder 7	6 litre
Nett Weight Spyder 3	10.5kg
Spyder 7	14kg
Dimensions Spyder 3	350x260x470 (LWH)
Spyder 7	380x200x420 (LWH)
Duty Cycle	S3 - 40% at Max 7bar*

* The compressor may only be operated continuously for 4 minutes in any period of 10 minutes, when output is max. 7 bar.

Part Numbers	Spyder 3	2330006
	Spyder 3 w/Spray Gun	2330011
	Spyder 7	2330016
	Spyder 7 w/Spray Gun	2330021

Please note that the details and specifications contained herein, are correct at the time of going to print. However, CLARKE International reserve the right to change specifications at any time without prior notice. Always consult the machine's data plate

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DECLARATION OF CONFORMITY

We declare that this product complies to the following standards/directives:

- 89/392/EEC
- 87/404/EEC
- EN 292-2
- IEC 34-1
- EN 60 335-1
- 89/336/EEC

Description: **AIR COMPRESSOR**

Model Number: **SPYDER 3 & 7 (Oil Free)**

Serial (Batch) No: **See Front Cover**

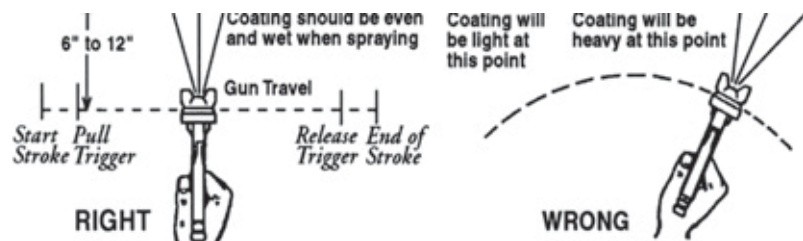
Signed 1874

Clarke[®] INTERNATIONAL
Hemnal Street, Epping, Essex CM16 4LG

Oil based paints (gloss) - up to 10% white spirit thinners
Cellulose paints - up to 50% cellulose thinners

The first requirement for a good resultant finish is the proper handling of the gun. The gun should be held perpendicular to the surface being covered and moved parallel to it. The stroke should be started before the trigger is pulled and the trigger should be released before the stroke is ended. This gives accurate control of the gun and material.

NOTE: To reduce overspray and obtain maximum efficiency, always spray with the lowest possible atomizing air pressure.



1. Immerse only the front end of the gun until solvent just covers the fluid connection.
2. Use a bristle brush and solvent to wash off accumulated paint.
3. Do not submerge the entire spray gun in solvent because:
 - a. the lubricant in the gland packings will dissolve and the packings will dry out.
 - b. the lubricant will dissolve causing harder operation and faster wear.
 - c. residue from dirty solvent may clog the narrow air passages in the gun.
4. Wipe down the outside of the gun with solvent dampened rag.
5. Lubricate gun daily. Use a light machine oil on:
 - a. fluid needle packing.
 - b. air valve packing.
 - c. fan control packing.
 - d. trigger pivot point.

Coat the fluid control spring with vaseline.

Caution: Never use lubricants containing silicone as this may cause finish defects.

Please read this leaflet thoroughly and carefully follow all instructions. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to the compressor giving you long and satisfactory service.

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt as proof of purchase. This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned without prior permission. This guarantee does not effect your statutory rights.

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SAFETY PRECAUTIONS

WARNING

As with all machinery, there are certain hazards involved with their operation and use. Exercising respect and caution will considerably lessen the risk of personal injury. However, if normal safety precautions are overlooked, or ignored, personal injury to the operator, or damage to property may result. It is in your own interest to read and pay attention to the following rules:

- X COMPRESSED AIR IS DANGEROUS, NEVER** direct a jet of air at people or animals, and NEVER discharge compressed air against the skin.
- X NEVER** operate your compressor with any covers removed.
- X NEVER** carry out any electrical or mechanical repairs unless you are qualified to do so. If problems occur, contact your Clarke dealer.
- X NEVER** leave pressure in the receiver overnight, or when transporting.
- X NEVER** adjust, or tamper with the safety valves. The maximum pressure is factory set, and clearly marked on the machine.
- X NEVER** operate in wet or damp conditions. Keep the machine dry at all times.
- X NEVER** use in dusty, dirty or paint spray locations. A clean atmosphere will ensure efficient operation.
- X NEVER** exert any strain on electrical cables and ensure that air hoses are not tangled or wrapped around machinery etc.
- ✓ **ALWAYS** expel all air from the receiver, and disconnect the machine from the mains. **BEFORE** carrying out any maintenance.
- ✓ **ALWAYS** exercise care when touching components...some of the metal parts can become quite hot during operation. Wait until the machine has cooled down.
- ✓ **ALWAYS** adjust the pressure regulator to the recommended setting for the particular spray gun or tool being used.
- ✓ **ALWAYS** ensure there is adequate ventilation when spraying inflammable materials e.g. cellulose paint, and keep clear of any possible source of ignition.
- ✓ **ALWAYS** protect yourself. Think carefully about any potential hazards which may be created by using the compressor and use the appropriate protection. e.g. Goggles will protect your eyes from flying particles. Face masks will protect you against paint spray and/or fumes. (Personal safety products can be obtained from your local Clarke dealer).
- ✓ **ALWAYS** consult paint/product manufacturers instructions for safety and usage before spraying any material
- ✓ **ALWAYS** ensure that the air supply is turned off at the machine outlet and expel all pressurised air from within the machine and other equipment attached to it, **BEFORE** disconnecting air hoses or other equipment from your compressor.
- ✓ **ALWAYS** exercise vigilance to ensure that children and animals are kept well away from the compressor and any equipment attached to it.
- ✓ **ALWAYS** ensure that all individuals using the compressor have read and fully understand these Operating Instructions.

PAINT SPRAYING HINTS

WARNING

*NEVER attempt to spray unless you are wearing suitable, approved respiratory and eye protection.
REMEMBER that some modern paints require specialist respiratory protection...always consult the paint manufacturers instructions.*

1. GENERAL PREPARATION

- a. Ensure that the area in which you will be spraying is clean and dust free.
- b. Connect spray gun to compressor via suitable flexible hose.
- c. With no paint in spray gun, test system for air leaks.
- d. Cover adjacent pieces of equipment to prevent overspray. Mask areas of the article not to be sprayed.
- e. Ensure surface to be painted is clean, dry and free from oil and dust. Check paint manufacturer's instructions for any special surface preparation required.

REMEMBER - TIME SPENT PREPARING SAVES TIME SPENT FINISHING

2. PAINT PREPARATION

- a. Achieve the correct paint viscosity. This should be done according to paint manufacturer's instructions, and will vary according to type of paint.
- b. Having mixed the paint thoroughly in a separate container, pour into the spray gun paint container through a fine filter.

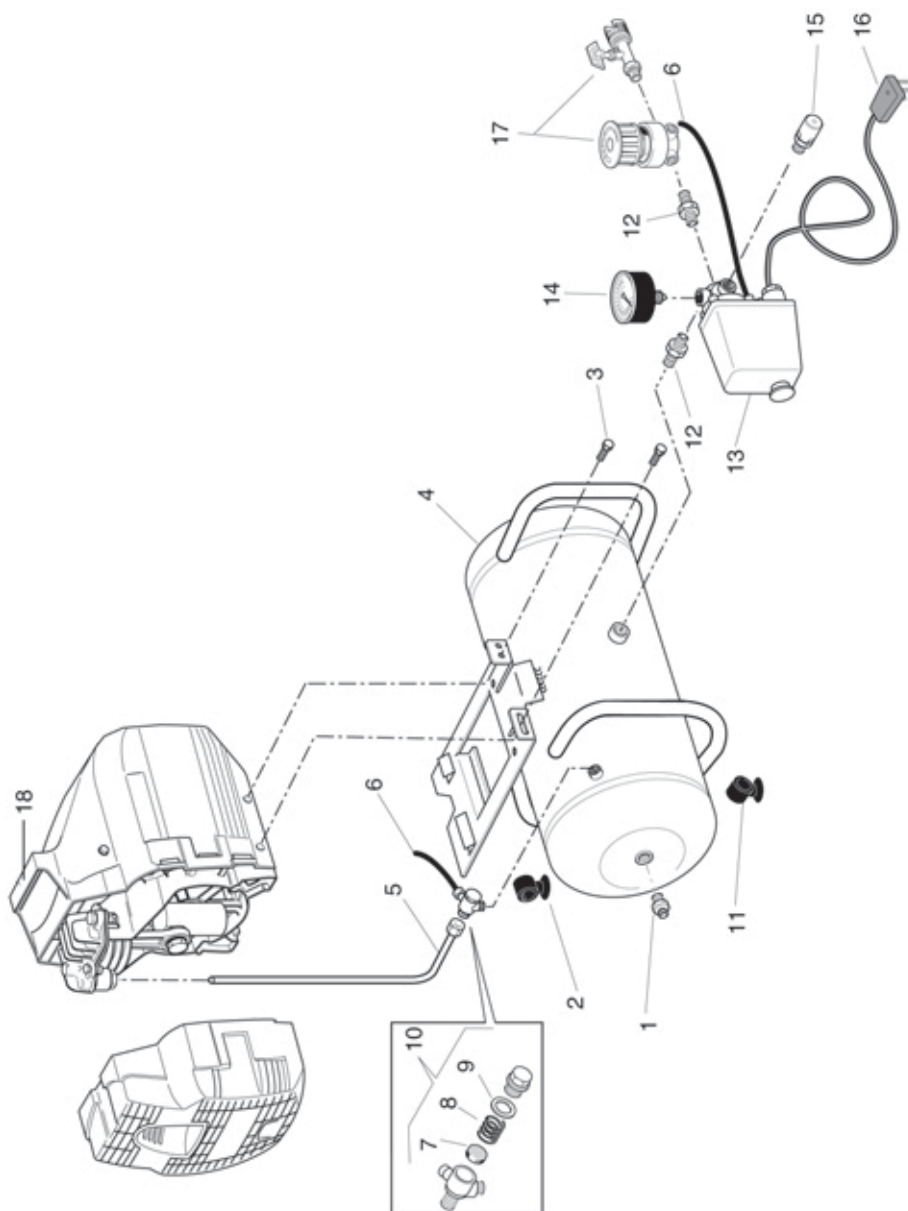
DO NOT OVERFILL SPRAY GUN PAINT CONTAINER - three quarters full is maximum

- c. It is usually best to experiment with a couple of practice spray coats on a piece of material with the same type of surface as the article you wish to spray, eg. metal for a car body panel, wood for a piece of furniture etc.
- d. Some common problems:

PROBLEM	CAUSE	CORRECTION
Paint does not atomise (comes out in blobs)	Paint is too thick, air pressure is too low.	Add thinners. Increase air press. (not above 50 psi, unless specified by paint manuf.
Paint dries before hitting surface, leaving it dry with a rough texture	Paint is too thin. Air pressure is too high	Add more paint. Reduce air pressure
Finish is pitted like Orange peel work	Air pressure too high or spray too close to gun and work.	Reduce air pressure, increase distance between

PARTS DIAGRAM - RECEIVER AND COMPONENTS

A. SPYDER 7



ELECTRICAL CONNECTIONS

Connect the mains lead to a standard, 230 Volt (50Hz) electrical supply through an approved 13 amp BS 1363 plug, or a suitably fused isolator switch.

WARNING! THIS APPLIANCE MUST BE EARTHED

IMPORTANT: The wires in the mains lead are coloured in accordance with the following code:

Green & Yellow	-	Earth
Blue	-	Neutral
Brown	-	Live

As the colours of the flexible lead of this appliance may not correspond with the coloured markings identifying terminals in your plug proceed as follows:

- Connect GREEN & YELLOW cord to terminal marked with a letter "E" or Earth symbol $\frac{\perp}{\equiv}$ or coloured GREEN or GREEN & YELLOW.
- Connect BROWN cord to terminal marked with a letter "L" or coloured RED.
- Connect BLUE cord to terminal marked with a letter "N" or coloured BLACK.

If this appliance is fitted with a plug which is moulded onto the electric cable (i.e. non-rewireable) please note:

1. The plug must be thrown away if it is cut from the electric cable. There is a danger of electric shock if it is subsequently inserted into a socket outlet.
2. Never use the plug without the fuse cover fitted.
3. When replacing a detachable fuse carrier, ensure the correct replacement is used (as indicated by marking or colour code).
4. Replacement fuse covers can be obtained from your local dealer or most electrical stockists.

FUSE RATING

The fuse in the plug must be replaced with one of the same rating (**13 amps**) and this replacement must be ASTA approved to BS1362.

We strongly recommend that this machine is connected to the mains supply via a Residual Current Device (RCD)

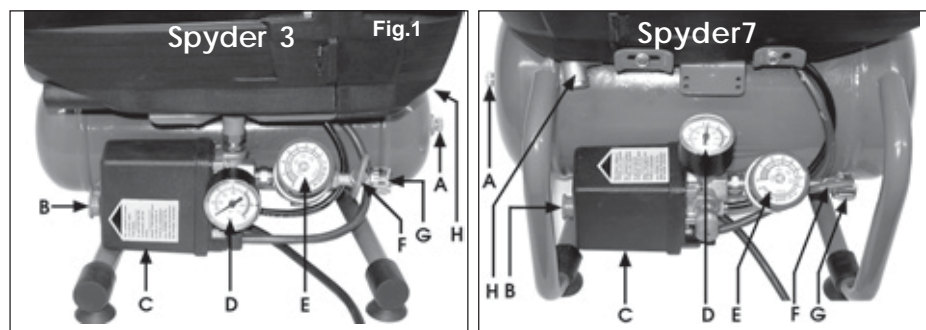
If in any doubt, consult a qualified electrician. DO NOT attempt any repairs yourself.

OPERATION (Numbers in brackets refer to fig. 1 below)

Before connecting your Spyder to the mains supply, check the following:-

- The mains voltage is 230V.
- **The ON/OFF control knob (B) is in the OFF (inner) position.**
- The pressure regulator (E) should be set at its lowest setting, i.e. turned fully anticlockwise, and the tap (F) screwed IN to its closed position.
- If the machine has not been used for 24 hours or so, open the air receiver drain valve (A) and turn it on its end in order to drain any condensate which may have accumulated. When clear, close the valve, finger tight.

IMPORTANT: If the receiver is under pressure, keep your hands well away from the air being expelled.... remember, compressed air is DANGEROUS!



- | | |
|-------------------------------|--------------------------------|
| A. Air Receiver Drain Valve | E. Air Pressure Regulator Knob |
| B. ON / OFF Knob | F. Air Outlet Tap |
| C. Pressure Switch and Cutout | G. Quick Fit Coupling Nut |
| D. Receiver Pressure gauge | H. Non-Return Valve |

Now connect a suitable air hose, fitted with quick-fit adaptors, between the air outlet (G) and the spray gun or air tool being used.

Ensure that the rubber washers are in place to form the necessary air tight seals. These fittings should be screwed by hand but take care not to over tighten. If a rubber seal is damaged then it should be replaced.

If you do not wish to use the Quick Fit method of hose connection, simply remove the Quick Fit nut and use an air hose fitted with conventional 1/4 BSP connectors.

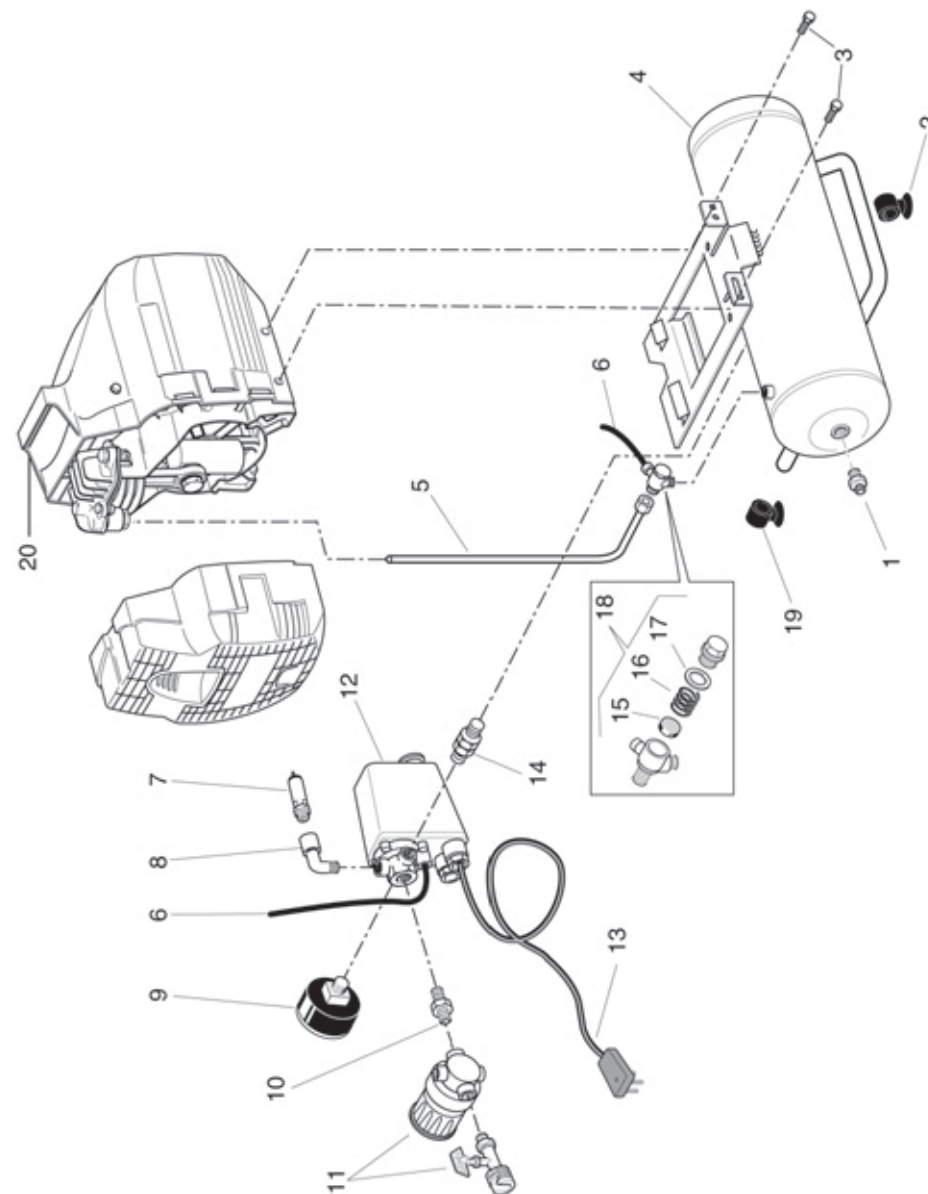
Once the hose connections are complete, CHECK AGAIN to ensure the pressure regulator (E) is turned fully anticlockwise so that compressed air cannot reach the air tool, then plug the machine into the mains and switch ON, by pulling the ON/OFF knob (B) out, until it clicks into position.

The air compressor will now start, and pressure will build up in the receiver to a regulated max. pressure of 8 Bar (116 psi).

Should the motor fail to start immediately, it is probable that the air receiver is already full of air. Check the pressure gauge (D). If you release air, by opening the drain valve (A), the motor will start automatically once the cut-in pressure is reached.

PARTS DIAGRAM - RECEIVER AND COMPONENTS

A. SPYDER 3



PARTS LIST - RECEIVER AND COMPONENTS

A. SPYDER 3

No.	Description	Qty	Part No.
1	Drain cock 3/8	1	FN022020000
2	Vibration damper support	1	FN020201000
3	Screw M5x15	2	FN014013042
4	Tank 2 lt.	1	FN126HU0010V
5	Delivery tube	1	FN129HU0010
6	Rilsan tube	1	FN046001000
7	Safety valve	1	FN347022000
8	Elbow R1/4"	1	FN011002000
9	Pressure gauge Ø40	1	FN330006000
10	Nipple 1/4"	1	FN011017000
11	Pressure reducer with line cock	1	FN319044000
12	Pressure switch	1	FN321028000
13	Power cable with BSI plug	1	FN101GA0200
14	Straight adapter	1	FN199626000
15	Seal	1	n/a
16	Spring	1	n/a
17	Gasket	1	n/a
18	Non-Return Valve	1	FN347060000
19	Vibration damper support	1	FN020202000
20	OL185 Compressor complete	1	FN516HP01604

n/a - not available

B. SPYDER 7

No.	Description	Qty	Part No.
1	Drain cock 3/8	1	FN022020000
2	Vibration damper support	1	FN020201000
3	Screw M5x15	2	FN014013042
4	Tank 6 lt.	1	FN126HU0011V
5	Delivery tube	1	FN129HU0011
6	Rilsan tube	1	FN046001000
7	Seal	1	n/a
8	Spring	1	n/a
9	Gasket	1	n/a
10	Non-Return Valve	1	FN347060000
11	Vibration damper support	2	FN020202000
12	Nipple 1/4"	2	FN011017000
13	Pressure switch	1	FN321028000
14	Pressure gauge Ø40	1	FN330006000
15	Safety valve	1	FN347022000
16	Power cable with BSI plug	1	FN101GA0200
17	Pressure reducer with line cock	1	FN319044000
18	OL185 Compressor complete	1	FN516HP01604

If this is not the case, it is possible that the overload cutout has intervened. This is a safety device to prevent the motor from overheating. The device will reset when the temperature falls to a predetermined level. In this event, switch OFF the machine and wait for 5 -10 minutes, before pressing the RESET button, mounted on the top cover, and clearly marked, and is shown in Fig.2..

Switch ON the machine and try again. If the motor fails to start, after several attempts, consult your Clarke dealer.

Once the machine has started, turn ON the air supply to your air tool by opening the tap (F), and turn the pressure regulator (G) clockwise so that your chosen setting, shown on the label on top of the regulator knob, is in line with the inverted vee mark on the underside side of the casting. Note that the pressure gauge registers the pressure in the receiver only.

IMPORTANT:

As no outlet pressure gauge is fitted to this model, the marks on the Pressure Regulator provide an indication ONLY of the output pressure. If you are using pressure sensitive tools or equipment, you should insert a pressure gauge in the airline.

Check to ensure that there are no air leaks at any of the couplings or in other parts of the system before operating the spray gun or air tool in the normal way.

When the compressor reaches its maximum working pressure, the motor will automatically cut out, and will restart when the pressure has fallen by approximately 20 psi. This automatic STOP/START process will continue, as necessary, to maintain pressure in the receiver.

When you have finished the job in hand **ALWAYS** switch OFF at the ON/OFF switch, NOT the mains supply, and release any pressure remaining in the system by opening the drain valve until all air is expelled.

ALWAYS operate the air tool to further ensure that there is no pressure in the system **BEFORE** disconnecting the tool. Finally, reset the pressure regulator to zero by turning the regulator knob fully anticlockwise.

ROUTINE MAINTENANCE

IMPORTANT: Before carrying out any maintenance, always disconnect the machine from the mains supply, drain the air receiver and, if necessary, allow the machine to cool down before starting work.

Daily

Before use, always open the drain valve and tip the machine on to its end. Hold in that position until all condensate has drained off. **Do not rest machine on the drain valve.**

Monthly

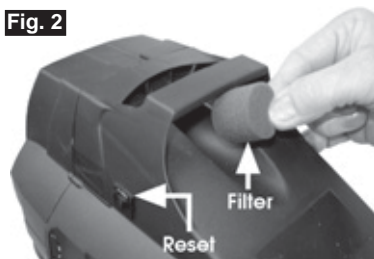
It is important to keep the compressor clean, with the help of a small soft brush and vacuum cleaner. In particular, the air intake filter should be inspected at least **MONTHLY**, and more often in dusty conditions, so that it is always kept free of any dirt

particles, which, if not cleaned away, will affect the performance of the machine.

To clean the air intake filter, carefully prise out the sponge element shown in fig.2. Clean the sponge and the housing using a brush or clean lint free cloth.

If necessary, the sponge filter may be gently washed in warm soapy water, rinsed and allowed to dry thoroughly before refitting.

Fig. 2



Every 500 hours of operation or every 6 months

- Clean all the external parts of the compressor.
(This cleaning makes the cooling process more efficient and prolongs the life of the machine).

- Examine the non-return valve and renew if necessary (fig. 3)
(Ref: H Fig. 1, Item 18 page 15, and Item 10, page 16,)

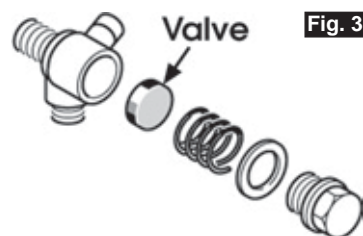


Fig. 3

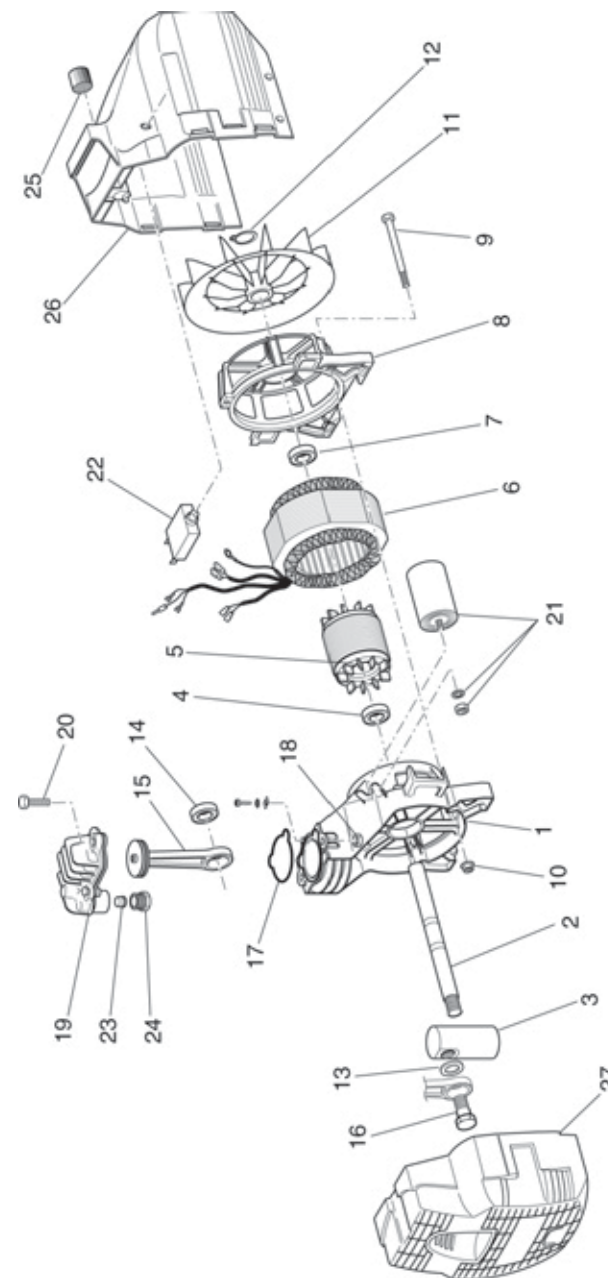
- In the event of an air leak follow the procedure below:
 - Load compressor to maximum pressure
 - Unplug the compressor
 - With a brush and soapy water wet all 'screwed' air connections
 - Any leaks will show through the formation of air bubbles.
- Replace the piston (See your Clarke dealer)

WARNING

**NEVER UNSCREW A CONNECTION WHILST THE AIR RECEIVER IS UNDER PRESSURE.
ALWAYS MAKE CERTAIN THAT THE TANK HAS FIRST BEEN EMPTIED.**

PARTS DIAGRAM - PUMP

SPYDER 3 AND SPYDER 7



PARTS LIST - PUMP

No.	Description	Qty	Part No.
1	Housing	1	FN116HP0001
2	Main Shaft	1	FN116HP0002
3	Crank	1	FN116HP0003
4	Bearing	1	FN033047000
5	Rotor	1	FN034139000
6	Stator	1	FN316HP1604
7	Bearing	1	FN033005000
8	Housing	1	FN116120007
9	Bearing	3	FN014002124
10	Bolt M5	3	FN014003003
11	Fan	1	FN116120008
12	Circlip	1	FN015083000
13	Distance Piece	1	FN014005069
14	Bearing	1	FN033055000
15	Con-Rod	1	FN416HP0004
16	Special Bolt	1	FN116HP0005
17	Gasket	1	FN116120013
18	Nut	2	FN014003001
19	Cylinder Head	1	FN416HP0007
20	Screw M8	2	FN014001056
21	Capacitor Compl.	1	FN009200004
22	Overload/Reset	1	FN008277000
23	Valve	1	FN011117000
24	Nut	1	FN116HP0011
25	Filter Element	1	FN116120017
26	Cover	1	FN116HP0008
27	Cover	1	FN116HP0009

SPARE PARES AND SERVICE CONTACTS

For Spare Parts and Service, please contact your nearest dealer,
or CLARKE International, on one of the following numbers.

PARTS & SERVICE TEL: 020 8988 7400

PARTS & SERVICE FAX: 020 8558 3622

or e-mail as follows:

PARTS: Parts@clarkeinternational.com

SERVICE: Service@clarkeinternational.com

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ACCESSORIES

Your Clarke Spyder Oil Free Air Compressor can be used in conjunction with a range of optional accessories for inflating tyres, air brushing, stapling, blowing and many other uses. For details contact your local accessory stockist. A complete kit is available from your Clarke dealer which is ideal for almost all applications.

Please quote part number 3110165



Should you experience any difficulties obtaining accessories, please contact the Clarke sales department (telephone 01992 565300) for details of your nearest dealer.

Should you wish to renew the Spray Gun and/or Hose, supplied with the models which include the Spray Outfits.....the part numbers are as follows:

Spraygun PS Part No. 5080813

Hose JP3 Part No. 3120203

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TROUBLE SHOOTING

With considerate use, your CLARKE Air Compressor should provide you with long and trouble free service. Routine checks should be made on both the electrical supply as well as the compressed air lines and connections. If any fault appears, the reason for which is not immediately obvious, please contact your local CLARKE Dealer.

PROBLEM	PROBABLE CAUSE	REMEDY
The compressor stops and will not start again.	Bad connections. Overload cutout switch has tripped. Motor windings burnt out.	Check electrical connections. Clean and tighten as necessary. Switch off and wait 5 minutes before switching on. Contact your local dealer for a replacement motor.
The compressor does not reach the set pressure and overheats easily.	Compressor head gasket blown or valve broken. Worn Piston	Contact your CLARKE dealer. Replace Piston (contact your CLARKE dealer)
Compressor does not start.	Air receiver charged	Open drain cock to expel air. Compressor should start again when pressure reduces to approx. 95 psi.
Air leaking from the pressure switch valve when the compressor is not running.	Faulty non-return valve.	First drain the receiver completely. Replace non-Return Valve
Air pressure from regulator will not adjust.	The diaphragm within the regulator body is broken.	Replace Regulator

CAUTION Do not attempt any repair or adjustment if you are uncertain as to how it should be done. If you have any queries, contact your local CLARKE Dealer.

Parts Lists and Diagrams & Spraying Hints and Tips